

Appl. No. 10/034,586
Response AF, dated February 18, 2005
Reply to Final Office Action of December 29, 2004

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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously Presented) A catheter having a torque transmitting shaft, comprising:
an elongate shaft having an outer surface; and
a raised pattern disposed on the outer surface, the raised pattern comprising a plurality of raised shapes;
wherein adjacent raised shapes are separated when the shaft is not being torqued and
wherein at least two adjacent raised shapes move toward one another when the shaft is torqued;
and
wherein the raised pattern defines means for improving the transmission of torque along the elongate shaft when torqued.
2. (Original) The catheter in accordance with claim 1, wherein the raised pattern comprises a plurality of diamond shapes spaced by channels therebetween.
3. (Original) The catheter in accordance with claim 1, wherein means for improving the transmission of torque comprises a plurality of bearing points.
4. (Original) The catheter in accordance with claim 3, wherein the bearing points contact one another when the elongate shaft is torqued.
5. (Previously Presented) A catheter having a torque transmitting shaft, comprising:
an elongate shaft having a proximal end, a distal end, a lumen extending therethrough, a core member having a proximal end and distal end, an inner surface, and an outer surface, wherein the inner surface is in fluid communication with the lumen; and
a raised pattern disposed on the outer surface, the raised pattern further comprising a plurality of bearing points,

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wherein the bearing points are separated when the shaft is not being torqued and wherein at least two of the bearing points move toward one another when the shaft is torqued; and wherein the raised pattern improves the transmission of torque along the elongate shaft.

6. (Original) The catheter in accordance with claim 5, wherein the raised pattern is formed by laser ablation.

7. (Original) The catheter in accordance with claim 5, wherein the raised pattern is formed by overmolding.

8. (Original) The catheter in accordance with claim 5, wherein the raised pattern is formed by hot die casting.

9. (Original) The catheter in accordance with claim 5, wherein the raised pattern is formed by embossing.

10. (Original) The catheter in accordance with claim 5, wherein the raised pattern is formed by extrusion.

11. (Original) The catheter in accordance with claim 5, wherein the bearing points contact one another when the elongate shaft is torqued.

12. (Previously Presented) A method of generating torque transmittance within a catheter shaft, comprising the steps of:

providing a catheter comprising an elongate shaft having an outer surface; and

disposing a raised pattern on the outer surface,

wherein the raised pattern forms means for improving the transmission of torque along the elongate shaft; and

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wherein the raised pattern comprises a plurality of raised shapes, adjacent raised shapes being separated when the shaft is not under torque and at least two adjacent raised shapes move toward each other when the shaft is under torque.

13. (Original) The method in accordance with claim 12, wherein the catheter is a ~~guide~~ catheter.

14. (Original) The method in accordance with claim 12, wherein the catheter is a ~~balloon~~ catheter.

15. (Original) The method in accordance with claim 12, wherein the raised pattern is formed by laser ablation.

16. (Original) The method in accordance with claim 12, wherein the raised pattern is formed by overmolding.

17. (Original) The method in accordance with claim 12, wherein the raised pattern is formed by hot die casting.

18. (Original) The method in accordance with claim 12, wherein the raised pattern is formed by embossing.

19. (Original) The method in accordance with claim 12, wherein the raised pattern is formed by extrusion.

20. (Original) The method in accordance with claim 12, wherein the raised pattern further comprises a plurality of bearing points.

21. (Original) The method in accordance with claim 20, wherein the bearing points contact one another when the elongate shaft is torqued.

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22. (Original) The method in accordance with claim 21, wherein the bearing points transfer torque along the elongate shaft.

23. (Previously Presented) The catheter in accordance with claim 1, wherein adjacent raised shapes contact one another when the shaft is under torque.

24. (Previously Presented) The method in accordance with claim 12, wherein adjacent raised shapes contact one another when the shaft is under torque.